

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) ~~Voltage~~ A voltage booster device (3) ~~such as to selectively assume an active status and a stand-by status, said device comprising:~~

~~—a first terminal (15) such as to assume being connectable to a respective electric potential and associated to a first capacitor (16),~~

~~—a second terminal (10) associated being connectable to a second capacitor (11) and selectively connectable to the first terminal (15),~~

~~characterised in that it also comprises circuit means for discharging (100) a discharge circuit coupled to the first capacitor for reducing in module the electric potential of the first terminal (15), the circuit discharge circuit means being activated to function when said device is in the stand-by status and the second terminal (10) is disconnected from said first terminal (15).~~

2. (Currently Amended) The device (3) ~~according to claim 1; wherein said discharge circuit circuit means (100) make makes it possible to discharge the first capacitor (16) in order to avoid perturbations of said second terminal (10) due to interactions between the first and second capacitor that can occur when the first and second terminals are connected.~~

3. (Currently Amended) The device (3) ~~according to claim 1; wherein said discharge circuit circuit means (100) comprise comprises:~~

~~a discharge device (106) connectable to said first terminal (15) and such as to cause a discharge current (106) of the first capacitor (16) when the said electric potential is higher in module than a preset value, the discharge device (106) being~~

enable/disable to/from function by means of a first command signal (PMPDISCH).

4. (Currently Amended) The device (3) according to claim 3, wherein said discharge circuit circuit means (100) also comprise comprises:

a detection circuit means (104,105) such as to generate the first command signal (PMPDISCH) of the discharge device (106) starting from a first voltage (V-DIV) correlated to the electrical potential of the first terminal (15).

5. (Currently Amended) The device (3) according to claim 4, wherein said means of detection circuit (104,105) comprise comprises:

a voltage comparator (105) for comparing the first voltage (V-DIV) with a reference voltage (VREF), said voltage comparator supplying in as an output the first command signal (PMPDISCH).

6. (Currently Amended) The device (3) according to claim 4, wherein said discharge device (106) includes a MOSFET (108) having a control terminal connected to said detection means circuit for receiving the first command signal (PMPDISCH).

7. (Currently Amended) The device (3) according to claim 5, wherein the detection means circuit (104,105) comprise comprises:

a voltage divider (104) connected to said first terminal (15) and such as to provide said first voltage to the voltage comparator (105).

8. (Currently Amended) The device (3) according to claim 1, comprising:

a booster stage (12) connected to said first terminal in order to supply the electric potential greater in module than a supply voltage of the device (3).

9. (Currently Amended) The device (3)—according to claim 8, also comprising:

a voltage regulator stage (17)—that can be connected to the booster stage (12)—in the active status in order to receive said electric potential and to supply an operative voltage on the second terminal (10).

10. (Currently Amended) The device (3)—according to claim 1, also comprising:

a voltage booster stage (5)—in order to raise in voltage the second terminal (10)—when the device is in the stand-by status and the first and second terminal are disconnected.

11. (Currently Amended) The device (3)—according to the claim 10; wherein the voltage boost stage (5)—also makes it possible to raise in voltage the first terminal (15)—connected to the second terminal (10) when, in the stand-by status, the said ~~circuit means~~ discharge circuit ~~is for discharging (100) are~~ deactivated.

12. (Currently Amended) The device (3)—according to claim 1 provided with at least one input for receiving a second command signal (SB)—such as to take the device into the stand-by status or into the active status.

13. (Currently Amended) The device (3)—according to claim 12; wherein the discharge circuit ~~circuit means (100) comprise~~ comprises:

a commutation means (101, 102)—destined to electrically connect/disconnect the first terminal (15)—to/from the second terminal (10), said means of commutation being commanded by at least one piloting signal of commutation (PMPCONHIV_N, REGCONHIV_N).

14. (Currently Amended) The device ~~(3)~~ according to claim 13; wherein said discharge circuit circuital means ~~(100)~~ also ~~comprise~~ comprises at least one circuit ~~(109;110)~~ for the generation of said at least one piloting signal of commutation ~~(PMPCONHIV_N, REGCONHIV_N)~~ starting from said second command signal (SB) and from a signal ~~(LOWPMP)~~ representative of the reduction of said electric potential following discharge of the first capacitor ~~(16)~~.

15. (Currently Amended) The device according to claim 9, also comprising:

additional voltage booster means ~~(112;113)~~ of said first terminal ~~(15)~~ when said device is taken into the active status after a period in the stand-by status and for a preset interval of time, said additional means supplying to the first terminal ~~(15)~~ electric charge in order to compensate an initial absorption of current from said first capacitor ~~(16)~~ that occurs on entry into the active status.

16. (Currently Amended) The device according to claim 15; wherein said additional means ~~(112;113)~~ are such to supply electric charge in order to support at least one static supply current of said regulator stage ~~(17)~~.

17. (Currently Amended) The device according to claim 15; wherein said additional means ~~(112;113)~~ are such to supply at least one transient current in order to compensate a transient current absorption by a charge that can be connected to said second terminal ~~(10)~~ of the voltage regulator ~~(17)~~.

18. (Currently Amended) The device according to claim 15; wherein said additional means comprise an additional charge pump booster ~~(112)~~ of the rapid activation type.

19. (Currently Amended) The device according to claim 15; wherein said additional means ~~(113)~~ comprise a first piloting element ~~(B1)~~ connected to at least a first compensation capacitor ~~(CB-de)~~ connected to the first terminal ~~(15)~~, said first capacitor being piloted by said first piloting element ~~(B1)~~ in order to supply electric charge starting from which is obtainable said at least one static current.

20. (Currently Amended) The device according to the claim 19, also comprising a second compensation capacitor ~~(CB-WL1)~~ associated to said first compensation capacitor ~~(CB-de)~~ that can be piloted by said first piloting element ~~(B1)~~ in order to supply electric charge from which said transitory current is obtainable.

21. (Currently Amended) The device according to claim 20; wherein said additional means ~~(113)~~ include at least one second piloting element ~~(B2, Bn)~~ connected to at least one second compensation capacitor in such a way as to supply electric charge in order to support a further transient current and compensate an absorption of current by part of a further charge that can be connected to said second terminal ~~(10)~~.

22. (Currently Amended) Non-volatile memory system comprising:
——a matrix of memory cells ~~organised~~organized in rows and columns,
——a voltage booster device ~~(3)~~ for boosting in module a supply voltage and supplying an operative voltage to said memory matrix, ~~characterised in that~~
said voltage booster device ~~is realized~~ being constructed according to claim 1 ~~at least one~~
of the previous claims.